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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,310	06/06/2001	Toshiyuki Miyauchi	450100-03277	7066

20999 7590 02/10/2004  
FROMMER LAWRENCE & HAUG  
745 FIFTH AVENUE- 10TH FL.  
NEW YORK, NY 10151

EXAMINER

TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/875,310

Applicant(s)

MIYAUCHI, TOSHIYUKI

Examiner

Joseph D. Torres

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,7-16,19,20 and 22-30 is/are rejected.
- 7) ☒ Claim(s) 2,3,6,17,18 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. In view of amendment A of Paper No. 7, the Examiner withdraws all objections to the specification.

### ***Claim Rejections - 35 USC § 112***

2. In view of amendment A of Paper No. 7, the Examiner withdraws the 35 USC § 112 rejections from the previous Office Action.

### ***Response to Arguments***

3. Applicant's arguments filed 30 January 2003 have been fully considered but they are not persuasive.

The Applicant contends, "This correction is due to the use of the absolute value of the difference between P and Q in the equation  $F = -a |P-Q| + b$ . By contrast (and as noted by the examiner), Benedetto uses a simplified expression  $F = -a x + b$ , which is analogous to the prior art linear approximation distinguished in the specification and shown in Figure 5A."

The Examiner would like to point out that nowhere in the claims does the Applicant claim the equation, " $F = -a |P-Q| + b$ " and  $F = -a x + b$  is still a correction term as claimed in the Applicant's claim 1.

The Applicant contends, "However, the document simply states that  $B=4$ " and does not disclose the additional required steps that the Examiner makes. Namely, that since  $4 = 2^2$ , and  $1/B$  is equivalent to the variable "a" in Benedetto, then  $a = 2^{-2}$ , which is a power exponent of 2. Although the Examiner's logic may appear plausible, the required steps are simply not disclosed in the references and only appear obvious with the benefit of hindsight."

The Examiner disagrees and asserts that Benedetto explicitly teaches the use of the equation  $F = -a x + b$  as a correction term on page 86 of Benedetto and XP-000888685 explicitly states that "the constants can be optimized for particular implementations". Use of specific values for a and b are still an obvious embodiment of the equation " $F = -a x + b$ " since regardless of the values a and b take on, the equation  $F = -a x + b$  is still the equation  $F = -a x + b$  as taught in the Prior Art references, Benedetto and XP-000888685, and as XP-000888685 teaches one of ordinary skill in the art at the time the invention was made would have been highly motivated to select particular values for a and b to optimize the constants for a particular application (see XP-000888685). The Examiner would like to point out that the XP-000888685 reference is the Applicant's own reference and that one of ordinary skill in the art at the time the invention was made would have been highly motivated by the XP-000888685 reference, to optimize the constants of the correction term,  $F = -a x + b$ .

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The Examiner disagrees with the applicant and maintains all rejections of claims 1-30.

All amendments and arguments by the applicant have been considered. It is the

Examiner's conclusion that claims 1-30 are not patentably distinct or non-obvious over the prior art of record in view of the references, Benedetto et al. (S. Benedetto, D.

Divsalar, G. Montorsi, and F. Pollara, Soft-Output Decoding Algorithms in Iterative

Decoding of Turbo Codes, TDA Progress Report 42-124, NASA Code 315-91-20-20-53)

and XP-000888685 ("Simplified Log-Map Algorithm", Research Disclosure, Kenneth

Mason Publications, Hampshire, GB, No. 421, May 1999, Page 612, ISSN: 0374-

4353) as applied in the last office action, Paper No. 6. Therefore, the rejection is maintained.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 4, 5, 7-16 19, 20 and 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benedetto et al. (S. Benedetto, D. Divsalar, G. Montorsi, and F. Pollara, Soft-Output Decoding Algorithms in Iterative Decoding of Turbo Codes, TDA Progress Report 42-124, NASA Code 315-91-20-20-53) in view of XP-000888685 ("Simplified Log-Map Algorithm", Research Disclosure, Kenneth Mason Publications, Hampshire, GB, No. 421, May 1999, Page 612, ISSN: 0374-4353).

See Paper No. 6 for detailed action of prior rejections.

#### ***Allowable Subject Matter***

5. Claims 2, 3 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 17, 18 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

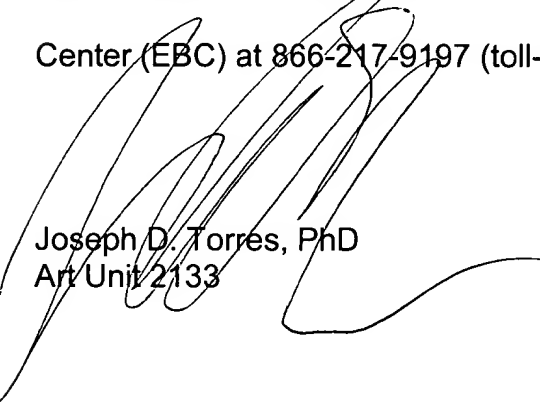
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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (703) 308-7066. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 2133



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